AMENDMENTS TO THE CLAIMS

Please replace the claims, including all prior versions, with the listing of claims below.

LISTING OF CLAIMS:

1-4. (Canceled).

5. (Currently amended) A method of determining a [[a]] head-media spacing ~~modulation of~~ between a head and a ~~portion~~ substrate or of ~~an actual~~ a disc media surface, comprising:

~~simulating a head passing in near proximity to a simulated disc media surface to generate~~ generating an air bearing transfer function as a function of wavelength;

~~generating a~~ measuring topography as a function of a distance in down track direction of the substrate or of [[for]]-the ~~actual~~ disc media surface; [[and]]

performing a Fourier transform of the topography as a function of the distance to obtain a squared topography function as a function of wavelength;

multiplying the squared topography function as a function of wavelength and the air bearing transfer function as a function of wavelength to obtain a product; and

integrating the product over a range of wavelengths to ~~provide~~ obtain the head-media spacing ~~modulation~~.

6. (Canceled)

7. (Currently amended) The method of claim 5 wherein the ~~generating of~~ measuring the topography as a function of distance comprises:

sampling topography as a function of distance of the ~~portion~~ substrate or of the ~~actual~~ disc media surface[[;]]

~~translating the actual disc topography sampled to wavelengths to provide a sampled topography; and~~

~~averaging the sampled topography to provide the topography function~~.

8. (Currently amended) The method of claim 5 wherein the ~~simulating~~ generating an air bearing transfer function as a function of wavelength comprises:

~~providing a simulated disc topography having a wavelength;~~

~~selecting a head to model;~~

~~providing air bearing code for the head selected;~~

~~providing operation parameters;~~

determining an air bearing transfer function from ~~the~~ an air bearing code the head~~;~~

~~determining simulated head-media spacing modulation for each of a plurality of disc wavelengths; and~~

~~interpolating the air bearing transfer function with gradations of the wavelengths to provide the air bearing transfer function for the spectral density~~.

9. (Canceled)

10. (Canceled)

11. (Currently amended) The method of claim 5 further comprising providing a model for glide avalanche (GA) to relate the head-media spacing ~~modulation~~ with a ~~variables~~ variable affecting processing of the substrate or the ~~actual~~ disc media surface, the model comprising:

an equation where the GA equals

$a\,[\int \Lambda^2(\lambda)Y(\lambda)d\lambda]^{1/2} + b,$

where a and b are constants, Λ is an air bearing transfer function, Y is a squared topography function as a function of wavelength, and λ is wavelength.

12. (Original) The method of claim 11 wherein the model comprises integral boundaries from zero to one revolution of the disc media.

13. (Currently amended) The method of claim 5 further comprising providing a model for glide avalanche (GA) to relate the head-media spacing ~~modulation~~ with a ~~variables~~ variable affecting processing of the substrate or the ~~actual~~ disc media surface, the model comprising:

an equation where the GA equals

$$a[\int Y(\lambda)d\lambda + \int \Lambda^2(\lambda)Y(\lambda)d\lambda]^{1/2} + b,$$

where a and b are constants, Λ is an air bearing transfer function, Y is a squared topography function as a function of wavelength, and λ is wavelength.

14. (Original) The method of claim 13 wherein the model comprises a constant c for breaking the equation into two integrals.

15. (Original) The method of claim 14 wherein the constant c is between high frequency region and resonant frequency region.

16-20. (Canceled)